

WHAT IS CLAIMED IS:

1. A method for selective deposition of molecules, comprising:
 - providing a reactive layer comprising a surface region coated with a resist that is biologically compatible with the reactive layer;
 - 5 selectively removing a portion of the biologically compatible resist from the surface region to expose an exposed portion of the reactive layer;
 - and
 - conjugating molecules with the exposed portion of the reactive layer.
- 10 2. A method according to claim 1, wherein the reactive layer comprises a polysaccharide mass.
3. A method according to claim 2, wherein the polysaccharide mass comprises chitosan.
4. A method according to claim 2 or 3, further comprising
 - 15 depositing a selectively insolubilizable polysaccharide on a substrate to form the polysaccharide mass.
5. A method according to claim 4, wherein said depositing comprises providing an aqueous solution comprising the selectively insolubilizable polysaccharide and having a pH, contacting the aqueous
 - 20 solution with the substrate, and altering the pH of the aqueous solution to insolubilize and deposit the selectively insolubilized polysaccharide on the substrate as a film of the polysaccharide mass.

6. A method according to claim 4, wherein said depositing comprises providing an aqueous solution comprising the selectively insolubilizable polysaccharide and having a pH, electrochemically depositing the selectively insolubilizable polysaccharide on an electrically conductive support of the substrate, and altering the pH of the aqueous solution to stabilize the selectively insolubilized polysaccharide on the electrically conductive support.

7. A method according to any one of claims 1 to 6, wherein the biologically compatible resist comprises a gelatin thermoresist.

10 8. A method according to any one of claims 1 to 7, wherein said selective removing comprises biolithography.

9. A method according to any one of claims 1 to 8, wherein the biologically compatible resist comprises a thermoresist, and wherein said selective removing comprises melting a portion of the thermoresist and removing the melted portion of the thermoresist from the reactive layer.

15 10. A method according to claim 9, where said melting is performed with a heated stamp applied to an exposed face of the thermoresist.

11. A method according to claim 9, wherein said melting is 20 performed with heating means incorporated in the solid support beneath the thermoresist.

12. A method according to any one of claims 1 to 8, wherein said selective removing comprises enzymatically removing a portion of the biologically compatible resist.

13. A method according to any one of claims 1 to 12, further
5 comprising modifying the reactive layer to improve conjugatability with reactive groups of the molecules.

14. A method according to any one of claims 1 to 12, further comprising modifying the molecules to improve conjugatability with reactive groups of the reactive layer.

10 15. A method according to any one of claims 1 to 14, wherein the molecules comprise biomolecules.

16. A method according to claim 15, wherein the molecules comprise one, two, three or more protein species.

17. A method according to claim 15, wherein the molecules
15 comprise one, two, three or more enzyme species.

18. A method according to claim 15, wherein the molecules comprise one, two, three or more antibody species.

19. A method according to claim 15, wherein the molecules comprise one, two, three or more receptor molecule species.

20 20. A method according to claim 15, wherein the molecules comprise one, two, three or more nucleic acid molecule species.

21. A method according to any one of claims 1 to 20, wherein the exposed portion and the molecules comprise a first exposed portion and a

first molecular species, respectively, and wherein the method further comprises:

- (d) coating the biologically compatible resist on the first molecular species conjugated to the first exposed portion of the reactive layer;
- 5 (e) selectively removing a second portion of the biologically compatible resist to expose a second exposed portion of the reactive layer; and
- (f) conjugating a second molecular species with the second exposed portion of the reactive layer.

22. A method according to claim 21, wherein the first and second molecular species are conjugated with the reactive layer sequentially.

23. A material comprising a reactive layer having a surface, the surface comprising a first surface region conjugated to a first molecular species and a second surface region coated with a biologically compatible resist.

24. A material according to claim 23, wherein the reactive layer comprises a polysaccharide mass.

25. A material according to claim 23 or 24, wherein the surface comprises a third surface region conjugated to a second molecular species differing from the first molecular species.

26. A device comprising a material of any one of claims 23 to 25.

27. A device according to claim 25, wherein the device comprises a microelectromechanical system.